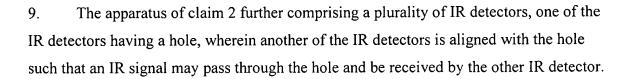
We claim

1. A communication apparatus in an automatic dispenser for communicating data with a communication device, the apparatus comprising:

an emitter; and

logic interfaced with the emitter, the logic configured to furnish a detection signal and a communication signal to the emitter.

- 2. The apparatus of claim 1 wherein the emitter is an IR emitter.
- 3. The apparatus of claim 2 wherein the detection signal is a sequence of one or more pulses.
- 4. The apparatus of claim 3 wherein detection signal pulses have a repetition rate of between 2 and 10 Hertz.
- 5. The apparatus of claim 2 wherein the communication signal is a sequence of pulses representing data.
- 6. The apparatus of claim 5 wherein the data rates for the communication signal is approximately 9600 bits per second.
- 7. The apparatus of claim 1 wherein the coupling between the signal processor and the emitter comprises a digital-to-analog converter and an infrared driver.
- 8. The apparatus of claim 2 further comprising a receiver interfaced with the logic, the receiver configured to receive a reflection signal and a downstream communication signal, wherein the reflection signal is emitted from the emitter.



- 10. The apparatus of claim 8 wherein the receiver comprises a detection photo detector configured for receiving the reflection signal and a communication photo detector configured for receiving the downstream communication signal.
- 11. The apparatus of claim 10 wherein the photo detectors are configured in a back-to-back arrangement.
- 12. The apparatus of claim 8 wherein the receiver is comprised of a single photo detector wherein the single photo detector is configured to provide the reflection signal to a filter and the downstream communication signal to a decoder.
- 13. An apparatus for automatic control of fluid flow when an object is in proximity with the apparatus and for communicating with a communication device, the apparatus comprising:

a transmitter for transmitting a detection signal and a communication signal; a receiver for receiving a reflected detection signal; and logic configured to control fluid flow based upon the reflected detection signal.

- 14. The apparatus of claim 13 wherein each of the signals is an infrared signal.
- 15. The apparatus of claim 13 wherein the detection signal is a sequence of pulses.
- 16. The apparatus of claim 13 wherein the logic is configured to include, in said communication signal, information indicative of an operational state of the apparatus.

- 17. The apparatus of claim 13 wherein the transmitter comprises a single emitter.
- 18. The apparatus of claim 17 wherein the logic is configured to exclude simultaneous transmission of the detection signal and the communication signal.
- 19. The apparatus of claim 13, wherein the receiver comprises an infrared detector having a hole, wherein the apparatus further comprises another infrared detector such that an infrared signal may pass through the hole and be received by the other infrared detector.
- 20. An automatic dispensing apparatus for controlling fluid flow when an object is in proximity with the apparatus and for transmitting information to a communication device, the apparatus comprising:

logic configured to generate a detection signal and a communication signal;
a driver circuit configured to drive said signals;
an emitter coupled to the driver circuit for wirelessly emitting said signals; and
a receiver for receiving reflections of the detection signal where the reflections
provide the basis for controlling the fluid flow.

21. A method of object detection and communication from an electronically operated dispensing device, the method comprising the steps of:

transmitting a detection signal;
detecting a reflection of the detection signal;
actuating a valve in response to the detecting step; and
transmitting a communication signal to a communication device.

22. The method of claim 21 wherein the detection signal is an infrared signal.

- 23. The method of claim 21 wherein the detecting step comprises the steps of: receiving the reflection of the detection signal at a photo detector; coupling a photo detector signal to a signal processor; and comparing, in the signal processor, the photo detector signal to a threshold value.
- 24. The method of claim 21 wherein the detection signal is one or more pulses.
- 25. The method of claim 21 wherein the detection signal is transmitted from an infrared emitter and the communication signal is transmitted from the infrared emitter.
- 26. The method of claim 21 wherein logic is configured to generate the detection signal and the communication signal.
- 27. The method of claim 26 wherein the detection signal and the communication signal are mutually exclusive in time.
- 28. The method of claim 21 wherein the detecting step is performed by on of a plurality of infrared detectors, the one infrared detector having a hole, wherein the method further comprises the steps of:

transmitting an infrared signal through the hole; and detecting the infrared signal via another of the plurality of infrared detectors.